

Solving sexual assault cases using DNA mixture evidence

National Sexual Assault Kit Initiative (SAKI)
National Institute of Justice
March, 2018

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Mixed results



eye of newt



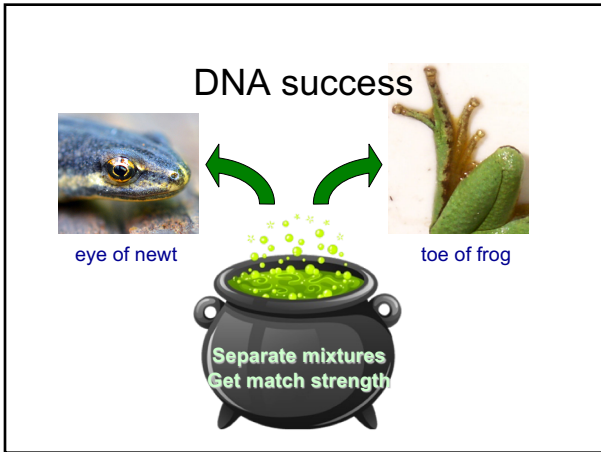
toe of frog



Current incentives

- Process rape kits
- Produce DNA data
- Solve easy mixtures
- Many "inconclusive"

Funding for work done



Incentives for success

- Get information
- Search database
- Find criminals
- Free innocent
- Win justice
- Prevent crime

Funding for information found

DNA investigation

California serial rape

8 mixture items vs. 5 victims + 1 suspect

Description	Item	C0428X	C0459X	C0460X	C0475X	C0820X	C1147X
Purse strap	C0431X	18.73	5.91				1.63
Phone cord	C0432X						4.53
Phone	C0984X	18.74	2.06				4.62
Stain on pants	C0801S				16.39		6.24
Stain from pants	C0802S				17.42		6.73
Back of shirt	C0806S			6.69	17.43		8.86
Bathtub handle	C0929X					5.80	2.74
Zip tie	C0937X					4.55	20.32

DNA match statistics
corroborate victim statements

BRJ

DNA prosecution

New York daughter rape

Item	Description	4.1 Daughter	5.1 Father
2.2	Stain 9	4.02	17.73
	Stain 21	16.87	14.22
	Stain 26	16.89	14.48
	Stain 30	9.32	17.74
	Stain 31	16.83	16.52

Louisiana pistol rape

Item	Description	1B Victim	2 Defendant A	11 Defendant B
9T2	inside of pistol barrel	6.07	3.20	13.80

Indiana college rape

Item	Description	001A1a Defendant A	002A Defendant B	005A1 Victim 1	006A1 Victim 2	014A Defendant C	013A2 Unknown person
004A2	Condom, non-sperm fraction	3.14		18.35			
012A1	Handgun grip (TWG94487)		7.59		13.72		
012A2	Trigger/trigger guard (TWG94487)		6.36		18.66		
013A1	Handgun grip (TFW00049)	1.21	7.30	6.44			7.67
013A2	Trigger/trigger guard (TFW00049)	1.71	2.25				=

Why DNA prosecution fails

Rape kits are processed, but:

- Data isn't used
- Mixtures aren't separated
- Genotypes aren't found
- Matches aren't reported
- Evidence isn't produced
- Results aren't explained

DNA exoneration

Indiana rape exoneration

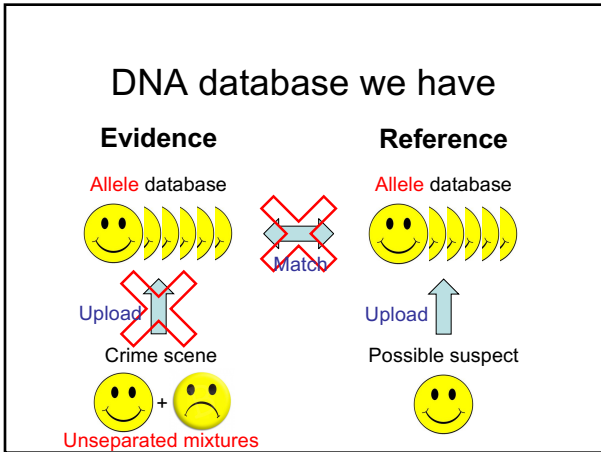


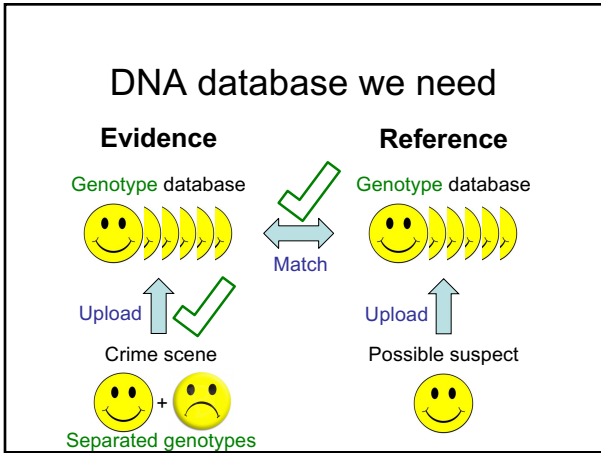
Database?

Why DNA investigation fails

Rape kits are processed, but:


- Data isn't used
- Mixtures aren't separated
- Genotypes aren't uploaded
- Database isn't searched






More information

<http://www.cybgen.com/information>




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<http://www.youtube.com/user/TrueAllele>
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